

MISL SDK Public Release

The Modular Integrated Stackable Layers (MISL) is a compact space-rated computer system that is modular, scalable and, reconfigurable. MISL has a flexible design so that as subsets of requirements are changed, the need for new designs is minimized and the reusability of the hardware and software modules is maximized. The result is a flexible, affordable, and small computer system that can be adapted to uses in space environment instrumentation and control.

Modular Integrated Stackable Layers (MISL)

The Modular Integrated Stackable Layers (MISL) is a compact space-rated computer system that is modular, scalable and reconfigurable. The original goal was to design a space environment capable instrumentation system with a flexible design so that as subsets of requirements changed, it minimized the need for new designs and maximized the reusability of the hardware and software modules. The result is a flexible, economical and small computer system that can be adapted to uses in space environment instrumentation and control. Current applications include habitat system instruments and control, dynamic flight instrumentation in rugged environments, in-vehicle communication protocol converters and remote control unit for thruster jets. Future applications are limited only by the imagination!!!

Communications

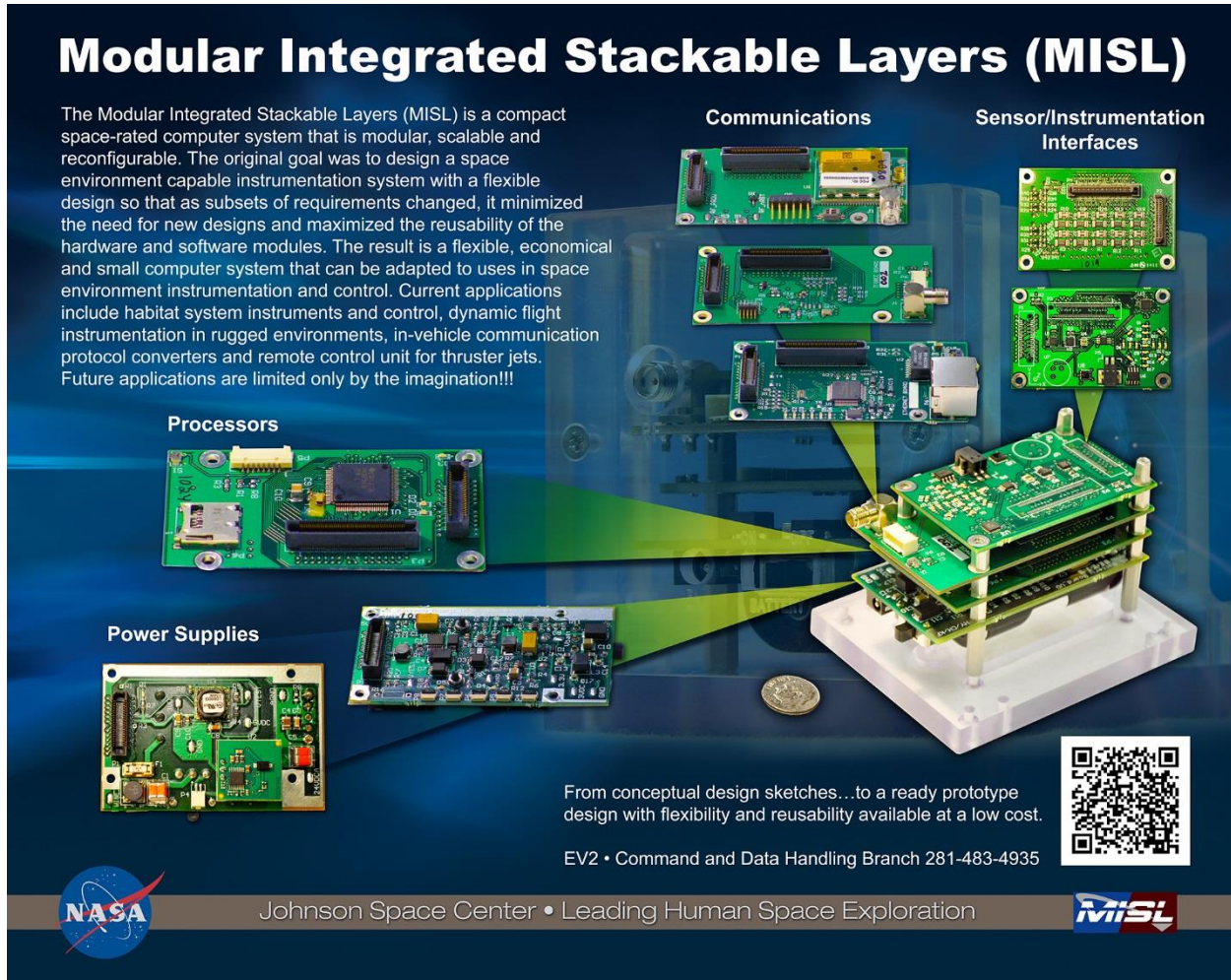
Sensor/Instrumentation Interfaces



Processors

Power Supplies

From conceptual design sketches...to a ready prototype design with flexibility and reusability available at a low cost.

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Using the experience gained in building small controllers and instrumentation, it was decided to slice the modules into similar functional areas. The common modules are power, Microcontroller/CPU, communication, and application modules. Each MISL layer board is rich in features to support as many requirements with a single circuit as possible. Each MISL stack application may only use a subset of the features on each layer board.

The software is similarly designed in a modular fashion. Software changes to a MISL design derived from a previous MISL application will mainly involve compiler directive changes reflecting the use of new hardware stack modules and any application specific parameters and operation scenarios.

The MISL Software Development Kit (SDK or "devkit") is a set of software files, that consists of low level drivers and example application code that allows the creation of application code for the different modules available in the MISL form factor. In this case it is the implementation of one or more Application Programming Interfaces (APIs) in the form of libraries to interface to a specific MISL hardware stack implementation. The MISL SDK requires TI's software development tools.

This document is being used to release to the public the MISL SDK's for the MISL MSP430 board and the MISL RM48 board.

Description	Revision	Part Number
MSP430 SDK	-1.0	MISL1W0001-1.0
RM48 SDK	-1.0	MISL1W0002-1.0